

### **Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the application.

#### **Listing of claims:**

1. – 3. (Cancelled)

4. (Currently amended) The system of claim 31, wherein the query formatter is ~~configured to~~ translates functional relationships in the machine representation of the problem statement into semantic relationships.

5. (Currently amended) The system of claim 31, wherein the query formatter is ~~configured to~~ reformulates the problem statement into a natural language query ~~or a Boolean query~~.

6. (Previously presented) The system of claim 31, wherein the at least one knowledge base includes a semantic analysis knowledge base.

7. (Previously presented) The system of claim 31, wherein the at least one knowledge base is resident on a storage medium co-located with the computer.

8. (Previously presented) The system of claim 31, wherein the at least one knowledge base is resident on a corporate server.

9. (Previously presented) The system of claim 31, wherein the at least one knowledge base is remotely accessed.

10. (Previously presented) The system of claim 31, wherein the at least one knowledge base is a patent collection that is remotely accessed.

11. (Currently amended) The system of claim 31, wherein at least one knowledge base includes a knowledge search tool ~~is configured to that~~ accesses a plurality of knowledge databases selected from a group including:

at least one knowledge database resident on a storage medium co-located with the computer;

at least one knowledge database on a corporate server; and

at least one knowledge database accessible via an internet link.

12. (Currently amended) The system of claim 31, wherein the at least one knowledge base includes a knowledge search tool ~~is configured to submit that uses the query to automatically search~~ the at least one knowledge database ~~without intervention by a user.~~

13. (Currently amended) The system of claim 31, wherein:

the problem analysis tool ~~is configured to~~ determines functional relationships between key components ~~elements of the system~~ electronic model; and

the query formatter ~~is configured to reformulate the machine representation of the problem statement by translating~~ translates the functional relationships into the natural language query.

14. (Currently amended) The system of claim 31, wherein:

the problem analysis tool ~~is configured to~~ performs a root cause analysis of the system-electronic model that establishes to generate a directed graph having one or more nodes, wherein each node represents a problem statement and has a node edge that represents a cause-effect relationship; and

the query formatter ~~is configured to~~ translates the one or more nodes into the natural language query.

15. (Previously presented) The system of claim 11, wherein the at least one knowledge base includes a semantic analysis knowledge base.

16. (cancelled)

17. (Currently amended) The computer program product of claim 32, wherein reformulating the machine representation ~~of the problem~~ includes into a natural language or Boolean query includes translating functional relationships in the machine representation ~~of the problem statement~~ into semantic relationships.

18. (Currently amended) The computer program product of claim 32, wherein one or more of the at least one knowledge base is a semantic analysis knowledge base.

19. (Previously presented) The computer program product of claim 32, wherein the at least one knowledge base is resident on a storage medium co-located with at least one of the one or more processors.

20. (Previously presented) The computer program product of claim 32, wherein the at least one knowledge base is resident on a corporate server.

21. (Previously presented) The computer program product of claim 32, wherein the at least one knowledge base is remotely accessible.

22. (Previously presented) The computer program product of claim 32, wherein the at least one knowledge base is a patent collection that is remotely accessible.

23. (Currently amended) The computer program product of claim 32, wherein accessing at least one knowledge base includes using a knowledge search tool to ~~accessing~~ a plurality of knowledge ~~database~~s comprising two or more of:

at least one ~~knowledge~~ database resident on a storage medium co-located with at least one of the one or more processors;

at least one ~~knowledge~~ database on a corporate server; and

at least one ~~knowledge~~ database accessible by an internet link.

24. (Previously presented) The computer program product of claim 32, wherein the method includes submitting the query to the at least one knowledge base without intervention by a user.

25. (Currently amended) The computer program product of claim 32, wherein ~~the method includes:~~

identifying the problem to be solved includes ~~analyzing~~ determining functional relationships between key ~~elements~~ components of the ~~system~~ electronic model; and

reformulating the machine representation ~~of the problem statement~~ into the natural language query includes translating the functional relationships into the natural language query.

26. (Currently amended) The computer program product of claim 32, wherein ~~the method includes:~~

identifying the problem to be solved includes performing a root cause analysis of the ~~system~~ electronic model ~~that establishes~~ to generate a directed graph having one or more nodes, wherein each node represents a problem statement and has a node edge that represents a cause-effect relationship; and

reformulating the machine representation ~~of the problem statement~~ into the natural language query includes translating the nodes into the natural language query.

27. (Previously presented) The computer program product of claim 23 wherein at least one of said knowledge bases is a semantic analysis knowledge base.

28. (Previously presented) The method of claim 29, further comprising presenting the set of solution suggestions via an output device.

29. (Currently amended) A computer-based method of obtaining solution suggestions for problems, using an electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components ~~the method implemented in a computer system having at least one processor and data storage medium~~, said method comprising the following computer executed steps:

analyzing the components and the relationships between the components of the electronic a-system model, including identifying a problem to be solved; and

generating a machine representation of a ~~problem statement~~ representing the problem;

reformulating the machine representation of ~~the problem statement~~ into a natural language or Boolean query; and

~~accessing~~ automatically submitting the query to at least one knowledge base having ~~problem~~ solutions stored therein~~[[,]]~~ ; and

returning ~~automatically obtaining~~ a set of solution suggestions responsive to the query from the at least one knowledge base ~~responsive to the query~~.

30. (Currently amended) A system for obtaining solution suggestions for problems, said system comprising:

at least one processor and at least one storage medium including an electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components;

~~a user input device enable user interact with at least a portion of a system model to enable identification of a problem to be solved, represented as a problem statement~~;

a problem analysis tool ~~configured to~~ that analyzes the components and the relationships between the components of the electronic model to identify a problem to be solved and generates a machine representation of the problem statement;

a query formatter ~~configured to~~ that reformulates the machine representation of the problem statement into a natural language or Boolean query and automatically submits the query to at least one knowledge base; and

the at least one knowledge base comprising:

at least one database comprising problem solutions; and

a knowledge search tool ~~configured to~~ that automatically search returns a set of solution suggestions responsive to the query from the at least one database for a set of solution suggestions responsive to the query.

31. (Currently amended) A system for obtaining solution suggestions for problems, the system comprising:

at least one processor and at least one storage medium including an electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components;

a problem analysis tool ~~configured to~~ that analyzes the components and the relationships between the components of the electronic a-system model to identify a problem to be solved, generates a problem statement representing the problem, and to generates a machine representation of a problem statement representing the problem;

a query formatter ~~configured to~~ that reformulates the machine representation of the problem statement into a natural language query or Boolean query and automatically submits the query to at least one knowledge base; and

the at least one knowledge base comprising~~[[:]]~~ at least one database comprising problem solutions~~[[:]]~~ and configured to return a knowledge search tool configured to automatically search the at least one database for a set of solution suggestions responsive to the query; and

~~an output device configured to present the set of solution suggestions.~~

32. (Currently amended) A computer program product stored on at least one storage medium for execution by one or more processors to perform a method of obtaining solution suggestions for problems, using a database including an electronic model of a system or process, wherein the electronic model includes components of the system or process and relationships between the components, said method comprising:

analyzing ~~a system~~ the components and the relationships between the components of the electronic model[[,]] ~~including identifying~~ to identify a problem to be solved; and  
automatically generating a machine representation of ~~[[a]]~~ the problem statement  
~~representing the problem;~~  
reformulating the machine representation ~~of the problem statement~~ into a natural language or Boolean query; and  
submitting the query to ~~accessing~~ at least one knowledge base having problem solutions stored therein, and  
returning ~~automatically obtaining~~ a set of solution suggestions responsive to the query from the at least one knowledge base ~~responsive to the query~~.